

PCS N00 NXX CODE FORMS

These forms consists of three parts*:

- Part A To be completed by Applicant/Code Holder:
- 1 - Initial PCS N00 NXX Code(s) Request (3b)
 - 2 - Additional PCS N00 NXX Code(s) Request (3c)
 - 3 - Code Return Notification (3d)
 - 4 - Code Information Change (3e).
- Part B To be completed by the Code Administrator in response to receipt of Part A above.
- Part C To be completed by Code holder to confirm implementation of the assigned codes.

Send to: Director - NANP Administration Telephone: 908-699-3700
6 Corporate Place Facsimile: 908-336-3293
Room 1F275
Piscataway, New Jersey
U.S.A 08854

Date of Submission**: _____

*Code applicants/holders can obtain assistance in completing the "PCS N00 NXX Code Forms" from the Director - NANPA (see above for contact information).

Notes:

The above date of submission will serve as the key tracking mechanism for this transaction. Please submit complete form (Cover sheet, Part A, Part B and Part C) to the Code Administrator. Forms may be reproduced locally as required.

PCS N00 NXX CODE FORMS**PART A****ASSIGNMENT REQUEST/RETURN NOTIFICATION/INFORMATION CHANGE FORM**

The applicant and the code administrator acknowledge that the information contained on this request form is sensitive and will be treated as confidential. The information in this form shall be treated as proprietary and will only be shared with PCS N00 code administrator personnel and/or regulators.

1. Name of entity requesting code assignment/return notification/information change:

2. Contact information:**Applicant**

Name: _____

Address: _____

Room: _____

City, Prov, Zip Code: _____

Phone No.: _____ FAX No.: _____

Company Name: _____

Operating Company Number (OCN) _____¹**3. PCS N00 Code Request****3a. Type of Request (check one)**

- ____ Initial PCS N00 NXX code(s) for service provider
(Also complete section 3b)
- ____ Additional PCS N00 NXX code(s) for service
provider (Also complete section 3c)
- ____ N00 PCS NXX Code return (Also complete section 3d)
- ____ N00 PCS NXX Code information change (Also complete
section 3e)

Note: It is the responsibility of the applicant to arrange with other entities code activation, deactivation, and changes.

¹ Not required for code assignment. See Glossary in "Assignment Guidelines" for definition.

3b. Initial PCS N00 NXX Code(s) Request

Quantity of initial PCS N00 NXX(s) being requested _____

Initial PCS N00 NXX(s) Assignment Preference in order of priority.²

Provide a general description of the service:

Provide a subscription forecast substantiation if request is for more than one NXX code; i.e.,

Projected demand for 12 Months (from Initial service date):

_____ (Average Amount of Numbers/Month)

Planned in service date(s) for PCS N00 NXX code(s): _____³

Is certification or authorization required to provide the service in the intended service area(s)?

Yes ____ No ____

If yes, does your company have such certification or authorization?

Yes ____ No ____ Pending ____

If yes, type and date of certification (e.g. letter of authorization, license, Certification of Public Convenience):

If no or pending, explain:

² Initially a single N00 code (500) will be allocated to personal communications services. However, it is anticipated that additional SAC(s) will be allocated when applicable. Please indicate the full six digit (e.g. 500-234) in order of preference.

³ At least 90 calendar days, after the code is assigned by the Administrator, is needed to update the LERG. Updating the LERG does not imply the code will be activated/de-activated/changed in every network by that date. It is the responsibility of the applicant to arrange with other entities code activation, deactivation, and changes.

3c. Additional INT/NPA/ NXX code request

Quantity of additional PCS NXX(s) being requested _____

Additional PCS N00 NXX(s) Assignment Preference in order of priority²

Current percent fill on assigned PCS N00 NXX code(s): _____

Current % Fill = $\frac{[\text{Working Numbers} + \text{Numbers Unavailable for Assignment}]}{[\text{Number of NXX code(s)} \times 10,000]} \times 100$

Growth history for 12 months: _____ (Average Amount of Numbers/Month)

Projected demand for the coming 12 months:
_____ (Average Amount of Numbers/Month)

Months to exhaust: _____

Planned in service date for the PCS N00 NXX code(s): _____³
(The applicant agrees to place these code(s) in service within six months of the assignment date.)

3d. Code return notification

The following PCS N00 NXX code(s) are being returned to the list of available NXX codes:

Effective date: _____

² Initially a single N00 code (500) will be allocated to personal communications services. However, it is anticipated that additional SAC(s) will be allocated when applicable. Please indicate the full six digit (e.g. 500-234) in order of preference.

³ At least 90 calendar days, after the code is assigned by the Administrator, is needed to update the LERG. Updating the LERG does not imply the code will be activated/de-activated/changed in every network by that date. It is the responsibility of the applicant to arrange with other entities code activation, deactivation, and changes.

3e. Code information change

PCS N00 NXX(s) affected:

Reason for change:

_____ Merger/Acquisition
_____ Company Name Change
_____ Contact Information Change
_____ Other
_____ Explanation _____

Effective date: _____

These NXX code(s) were formally administered by:

Company name: _____
Contact name: _____ OCN _____
Address: _____ ACNA _____
Room: _____ CIC _____
City, State, ZIP: _____
Phone: _____ FAX: _____

It is understood that the applicant* will return the PCS N00 NXX to the administrator for reassignment if the resource is no longer in use by the applicant, no longer required for the service for which it was intended, not activated by the timeframe specified in these guidelines (an extension can be applied for), or not used in conformance with these assignment guidelines.

I hereby certify that the above information is true and accurate to the best of my knowledge, that the assigned N00 NXX codes will be used in the provision of international inbound communications as a public telecommunication service, and that this application has been prepared in accordance with the "Personal Communications Services Code Assignment Guidelines".

Signature of Authorized Representative of Code Applicant/Holder_____
Name/Title_____
Date

* either an individual applicant or several users of a shared use resource

PCS N00 NXX FORMS

PART B

PCS N00 NXX CODE ASSIGNMENT CONFIRMATION FORM

Applicant

Name: _____
 Address: _____
 Room: _____
 City, Prov, Zip Code: _____
 Phone No.: _____ FAX No.: _____
 Company Name: _____
 Operating Company Number (OCN) _____
 Access Customer Name Abbreviation (ACNA) _____
 Carrier Identification Code (CIC) _____

Date of Application: _____
 Date of Receipt of Request: _____
 Date of Response to Request: _____

_____ Code(s) Assigned: _____
 _____ Code(s) Returned: _____ will be removed/re-assigned
 effective: _____

_____ Form incomplete
 Additional information required in the following section(s):

_____ Form complete, code request denied.

Explanation: _____

Other:
 Explanation: _____

Code Information Change Confirmed:

- ☐ Merger/Acquisition
- ☐ Company Name Change
- ☐ Contact Information Change
- ☐ Other

Explanation: _____

Signature of PCS N00 Code Administrator Representative

Date

Name/Title

Address

Room

City, Province, Postal Code

Phone No. _____ FAX No. _____

PCS N00 NXX CODE FORMS

PART C

CONFIRMATION OF INT/NPA/NXX CODE ACTIVATION

By signing below, I certify that the PCS N00 code(s) specified below are in service and that the NXX code(s) are being used for the purpose specified in the original application (see Section 5.0, "Responsibilities of Code Applicants and Holders" in the current INT/NPA/NXX Code Assignment Guidelines").

Authorized Representative of Code Holder (Print)

Signature

Title

Date

Service Trouble Reporting Contact _____
Service Trouble Reporting Number _____

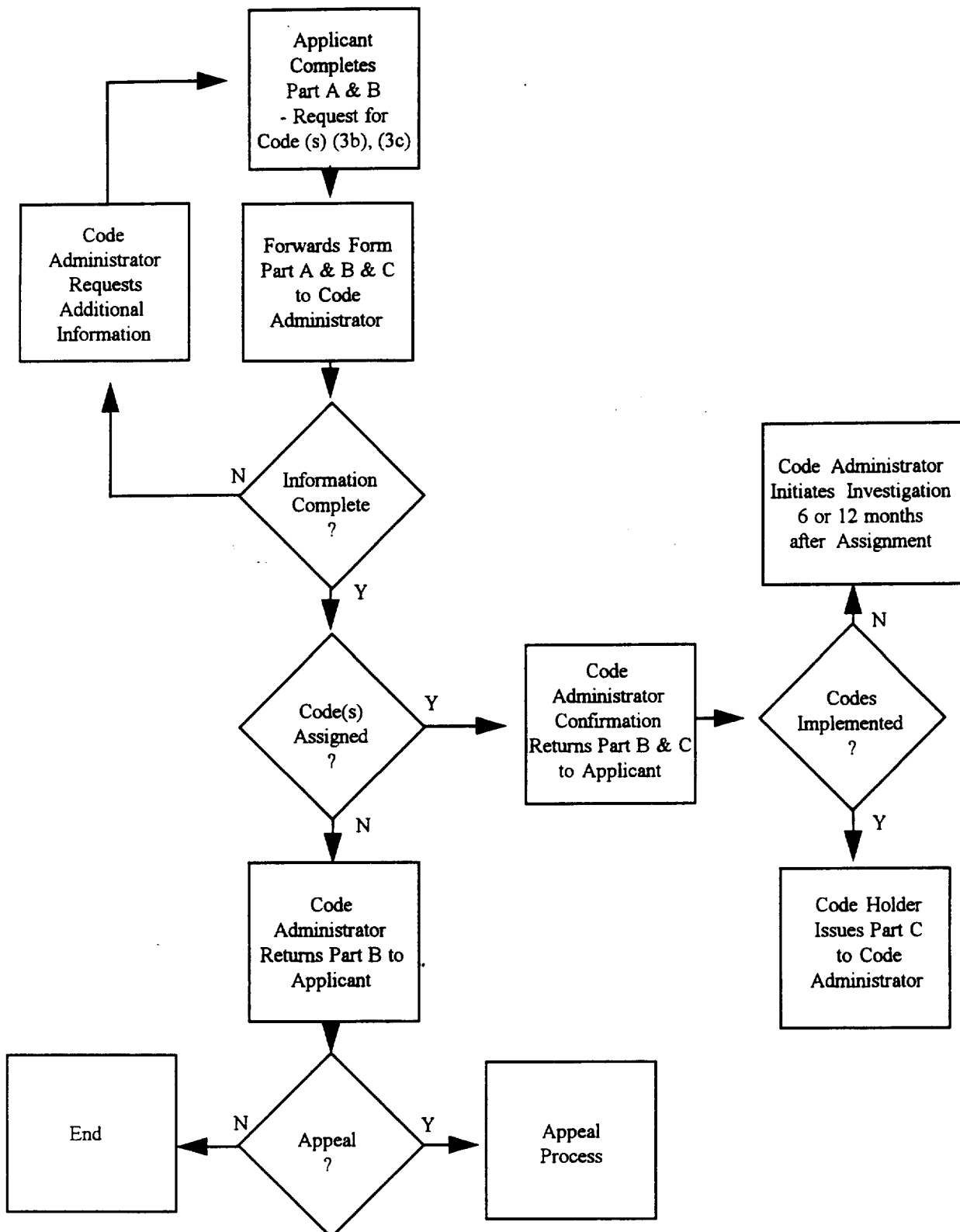
PCS N00 NXX Code

Date of Application

In-Service Date

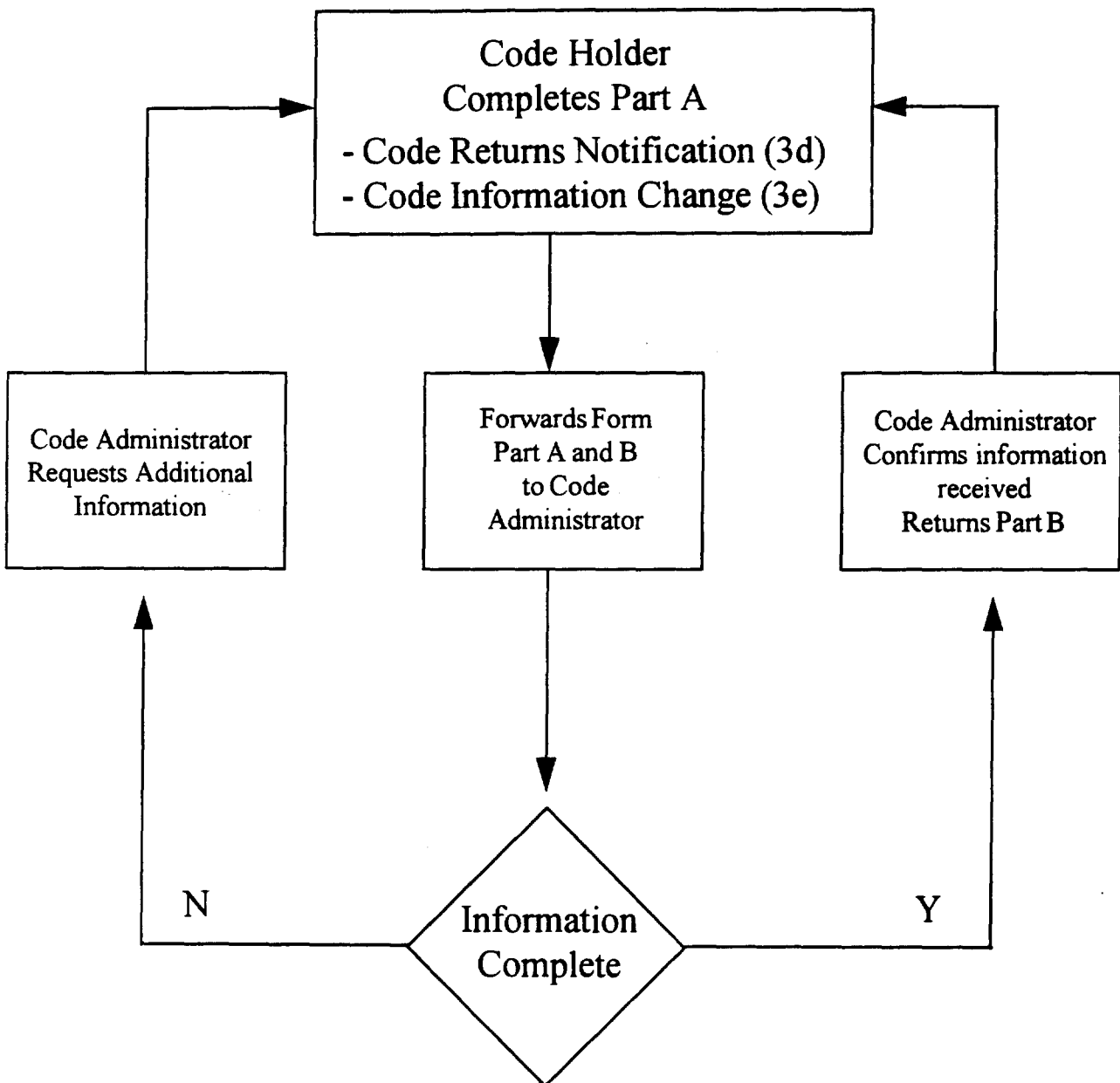
PCS N00 NXX CODE FORMS FLOWCHART #1

- Initial PCS N00 NXX Code(s) Request (3b)
- Additional PCS N00 NXX Code(s) Request (3c)



PCS N00/NXX CODE FORMS FLOWCHART #2

- Code Return Notification (3d)
- Code Information Change (3e)



ATTACHMENT 4

ICCF

INDUSTRY CARRIERS COMPATIBILITY FORUM

UNDER THE AUSPICES OF THE CARRIER LIAISON COMMITTEE

Ron Havens, ICCF Moderator
Sprint - LDD, 5th Flr East
8140 Ward Parkway
Kansas City, MO 64114
(913) 624-6881
Fax: (913) 624-5504
email: Ronald.D.Havens@sprint.sprint.com

Mary Ann Weldon, ICCF Assistant
Moderator
NECA RM2B218
100 South Jefferson Rd.
Whippany, NJ 07981
Phone: (201) 884-8037
Fax: (201) 884-8469
email: mweldon@neca.org

Kathy Cullen, ICCF Secretary
Bellcore - Room 2F309
3 Corporate Place
Piscataway, NJ 08854
Phone: (908) 699-3245
Fax: (908) 336-3640 or 2304
email: kcullen@notes.cc.bellcore.com

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TECHNICAL INTERCONNECTION ARRANGEMENTS FOR 500-LIKE NON-GEOGRAPHIC SERVICES

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Executive Summary

This document focuses on technical interconnection arrangements for 500 * service in a pre-portability environment in which codes are assigned to service providers on a central office code (NXX) basis. These technical interconnection arrangements are expected to apply to the portability environment also, with the exception of 10-digit screening additions to support service provider portability. As such, the existing interconnection/routing options for delivering the call to the service provider/carrier, described in Section 6, are a subset of those in the document developed by the Industry Numbering Committee (INC) Personal Communications Service (PCS) Portability Workshop, "INC REPORT on PCS N00 Portability". Also, the potential interconnection/routing options for delivering the call to the designated query provider (DQP), described in Section 7, include all the options in the "INC REPORT on PCS N00 Portability".

* In the context of this document use of the terms "500 service" and "500-like" includes the use of the 500, 533, 544, 566, 577 and 588 NPAs.

1.0 Introduction

This document was prepared by the Industry Carriers Compatibility Forum to record the potential technical interconnection arrangements developed by the Access Arrangements for New Non-Geographic Services Workshop. This document does not presume implementation of specific network architectures, charging methods, interconnection arrangements or access arrangements. Some arrangements may require business and/or industry agreements. This document does not address existing access arrangements for 600, 700, 800, 888 or 900 services.

1.1 Purpose

The purpose of this document is to identify potential technical interconnection and routing arrangements associated with call set-up for services using non-geographic codes.

1.2 Scope

The focus of this document is on potential technical interconnection arrangements for personal communications services using non-geographic codes (e.g., 500, 533, 544 etc.) in a pre-portability environment. However, it is expected that the proposed arrangements could be used for other non-geographic type services. Although personal communications service will be initially provided in a non-portable environment, using an NPA NXX service provider identification plan, the proposed arrangements, with modifications, could be used in a portable environment. Signaling and switching system capabilities, and the impact on access support systems such as BRIDS, RDBS and LERG will also be identified. The document also addresses the signaling information parameters necessary for billing.

2.0 Definitions and Acronyms

This section contains definitions and acronyms as they are specifically used in this document.

Definitions

500 Service Provider - Any entity that is authorized by the appropriate governmental authorities within the area served by the North American Numbering Plan (NANP) to provide 500 service to the public.

Access Provider - A local exchange carrier (e.g., LEC, CLEC, etc.) that provides a local exchange subscriber with access to an interexchange carrier(s) (IC). (Can be a wireline or wireless carrier.)

Access Customer - Any customer that obtains local access from an access provider.

Automatic Number Identification (ANI) - The automatic identification of the calling station. The ANI normally consists of the calling party's billing number.

Automatic Number Identification Information Integers (ANI II) - The information integers that provide information about the type of line originating the call, indicate special characteristics of the billing number or identify certain service classes.

Called Party Number (SS7 Parameter) - Information sent in the forward direction to identify the called party and consisting of the odd/even indicator, nature of the address indicator, numbering plan indicator, and address signals.

Calling Party Number (SS7 Parameter) - Information sent in the forward direction to identify the calling party and consisting of the odd/even indicator, nature of the address indicator, numbering plan indicator, address presentation indicator, screening indicator, and address signals.

Carrier Identification Code - CICs are numeric codes which are currently used to identify customers who purchase Feature Group B (FG B) or Feature Group D (FG D) access service. These codes are primarily used for routing from the local exchange network to the access purchaser and for billing between the LEC and the access purchaser.

Charge Number (SS7 Parameter) - Information sent in either direction indicating the chargeable number for the call and consisting of the odd/even indicator, nature of address indicator, numbering plan indicator, and address signals.

Designated Query Provider (DQP) - The (signaling) network selected by the Non-Geographic Service Provider (SP) to query its service profile database, which contains the customer's service profile, for the geographic routing address (terminating number) of the customer. The SP will provide the DQP with the Signaling System 7 (SS7) address (point code) needed to route to the service profile database. The DQP function can be performed in the Originating Network (ON), the Intermediate Network (IMN), or the Terminating Network (TN).

Dialed Number - The number dialed by the calling party.

Generic Address (SS7 Parameter) - Information in the form of an address pertaining to a supplementary service (e.g., dialed number, destination number) and including type of address, nature of address and numbering plan indications.

Geographic Routing Address - May be the actual NANP number of the non-geographic user at their present location or the network address of the terminating switch that will provide additional call processing.

Initial Address Message (IAM) - A message sent in the forward direction to initiate seizure of an outgoing circuit and to transmit number and other information relating to the routing and handling of a call.

Integrated Services Digital Network (ISDN) User Part (ISUP) - Defines the protocol which supports the signaling functions required to provide voice and non-voice services in an Integrated Services Digital Network.

Interexchange Carrier (IC) - Any entity that is authorized by appropriate governmental authorities within the area served by the NANP to provide long distance telecommunications service to the public.

Intermediate Network (IMN) - The network that accepts the call from one network and passes it to the next network.

Jurisdiction Information (SS7 Parameter) - Information sent in the forward direction indicating the geographic origination of the call.

Local Exchange Company (LEC) - Any entity that is authorized by the appropriate governmental authorities within the North American Numbering Plan (NANP) to provide local telecommunications service to the public.

Modified Operator Services Signaling (MOSS) - A type of signaling protocol for operator services.

Multifrequency (MF) - An inband signaling method that is used for call control and other network management functions.

Number Portability - Number portability in the context of personal communications implies that a subscriber can change service providers while retaining their number assignment.

Originating Line Information (SS7 Parameter) - Information sent in the forward direction indicating a toll class of service for the call.

Originating Network (ON) is the network in which the call originates.

Personal Communications Service (pcs) - For the purpose of this document, personal communications service is a set of capabilities that allow some combination of personal mobility, terminal mobility, and service profile management. It enables each personal communications service user to participate in a user defined set of subscribed services, and to initiate and/or receive calls on the basis of some combination of a personal number, routing address, and a service profile across multiple networks at any terminal, fixed or mobile irrespective of geographic location. Service is limited only by terminal and network capabilities and restrictions imposed by the personal communications service provider.

Restricted Line(s) - Refers, in this document, to any line requiring special treatment/routing on 500 service calls. Examples of these types of lines are coin, coinless payphones, Type 1 cellular interconnected lines, restricted PBX or CENTREX or hotel/motel lines.

Signaling System 7 (SS7) - An out-of-band common channel signaling protocol used for information transfer for call control and other network management functions.

Terminating Network (TN) - For the purpose of this document the terminating network is the network in which the geographic routing address resides.

Transaction Capability Application Part (TCAP) - The Application Layer protocol in SS7 supporting functions that control non-circuit-related information transfer between two or more signaling nodes via a signaling network.

Acronyms

ANI	Automatic Number Identification
ANI II	ANI Information Integers
ANSI	American National Standards Institute
BRIDS	Bellcore Rating Input Database System
CCS	Common Channel Signaling
CIC	Carrier Identification Code
DB	Database
IC	Interexchange Carrier
ICCF	Industry Carriers Compatibility Forum

IAM	Initial Address Message
IMN	Intermediate Network
INC	Industry Numbering Committee
ISDN	Integrated Services Digital Network
ISUP	ISDN Users Part
ITU	International Telecommunications Union
ITU-T	Telecommunications Standardization
LEC	Local Exchange Carrier
LERG	Local Exchange Routing Guide
MF	Multi-Frequency
MOSS	Modified Operator Services Signaling
NPA	Numbering Plan Area
ON	Originating Network
PIC	Presubscribed Interexchange Carrier
RDBS	Routing Database System
SP	Service Provider
SS7	Signaling System 7
TCAP	Transaction Capabilities Application Part
TGID	Trunk Group Identifier
TN	Terminating Network
UPT	Universal Personal Telecommunications

3.0 Reference Documents

Listed below are reference documents related to non-geographic services.
Please consult the individual documents for further information.

ANSI T1.113-1995 Signaling System No. 7 (SS7) - Integrated Services Digital Network (ISDN) Users Part (ISUP)

ANSI T1.701-1994 Universal Personal Telecommunication (UPT) - Service Description (Service Set One)

ANSI T1.702-1995 Personal Communications Terminology

Bellcore GR-1434-CORE, CCS Network Interface Specification (CCSNIS) Supporting Wireless Service Providers

Bellcore GR-2801-CORE, Switching and Signaling Generic Requirements for Network Access Services to Personal Communications Service (PCS) Providers

Bellcore SR-TSV-002459, PCS Network Access Services

BOC Notes on the LEC Networks - (Bellcore) SR-TSV-002275, issue 2, 4/94

INC 95-0407-009, (formerly ICCF 93-1130-011), PCS N00 NXX Code Assignment Guidelines

INC 95-0512-010, INC Report On PCS N00 Portability

ITU-T Recommendation E.174, Routing Principles and Guidance for Universal Personal Telecommunications (UPT)

T1 Technical Report TR 30, UPT Numbering and Addressing in World Zone 1

T1 Technical Report TR 34, Network Capabilities, Architecture's, and Interfaces for Personal Communications

T1 Technical Report 41, UPT Routing for the Networks Served by the North American Numbering Plan

4.0 Assumptions and Constraints

This section identifies the assumptions and constraints that were considered in generating this document.

- A)** The potential technical interconnection and routing arrangements identified are for 500-like non-geographic services in a pre-portability environment.
- B)** Databases will be used to provide the routing information required for processing and completion of the non-geographic call. While the figures illustrate the presence of one database accessed by the DQP, there may be other databases in individual networks involved in processing these calls.
- C)** The "common minimum" set of attributes or arrangements defined, can be used on a nationwide basis for 500-like non-geographic services. These "common minimum" arrangements do not preclude use of any other arrangements that could be negotiated between carriers or between carriers and service providers.
- D)** The potential technical interconnection arrangements and/or attributes identified can be used in both wireline and wireless networks using non-geographic 500 numbering resources.
- E)** Dialing plans supported by the potential technical interconnection arrangements are 1+500, 0+500, 0-.

-
- F)** Transaction Capability Application Part (TCAP) messages will be used for database queries.
 - G)** The proposed arrangements, with modifications, could be used in a portable environment.
 - H)** Switch/protocol development may be required to populate and use the IAM with the necessary ISUP parameters (e.g., JIP, GAP, etc.) as depicted in this document.
 - I)** A call is considered to be from the ON to the TN; any additional call routing beyond the TN is considered to be outside the purview of this document.
 - J)** This document does not address access transport billing.
 - K)** Six-digit routing using PIC is only available using AIN in a pre-portability environment
 - L)** Architectures suggested in this document to provide non-geographic services in a pre-portability environment and the routing scenarios depicted in Figures 7.3.1 through 7.3.11 illustrate end to end routing configurations. These scenarios are not the only arrangements that might be used. They are only examples provided in order to define the network functionalities that may be required to route non-geographic calls in a pre-portability environment.
 - M)** Deploying the technical interconnection arrangements contained in this document, or any other non-geographic arrangements, may require tariff approvals as well as business agreements between network providers and service providers. These agreements are outside the scope of this document.
 - N)** The text in Section 7 contains assumptions about where call detail recording might be done. However, there has been no attempt to identify every potential location where call detail recording could be done. Neither has any attempt been made to suggest how billing would be provided to end users. These are service provider issues that must be resolved with network providers when service is established.

- O) The SS7 IAM parameters shown in the diagrams in Section 7 are the minimum set technically required for call routing and/or billing and may be subject to business arrangements.

5.0 Principle

The following is a fundamental principle in developing this document:

No service provider should be advantaged or disadvantaged by the technical interconnection arrangements proposed in this document.

6.0 Existing Interconnection/Access Arrangements

The interconnection/access arrangements described in this section support an originating access service that is offered to 500 Service Providers.

When a call is originated to a 500 number by an end user, the access provider performs access customer identification based on six-digit screening of the 500 number to determine the next point in the call routing. The six-digit screening is performed using database technology or switch translations.

In addition, 500 service providers may have the option of the access provider performing additional data base processing for calls to their 500-NXX central office code in order to translate the dialed 500-NXX-XXXX number to a geographic routing address.

Access architecture arrangements are illustrated in Figure 6-1. Table 6-1 provides the type of dialing and signaling supported by the designated access arrangements (labeled a,b,c, and d) and the signaling information parameters that are forwarded.

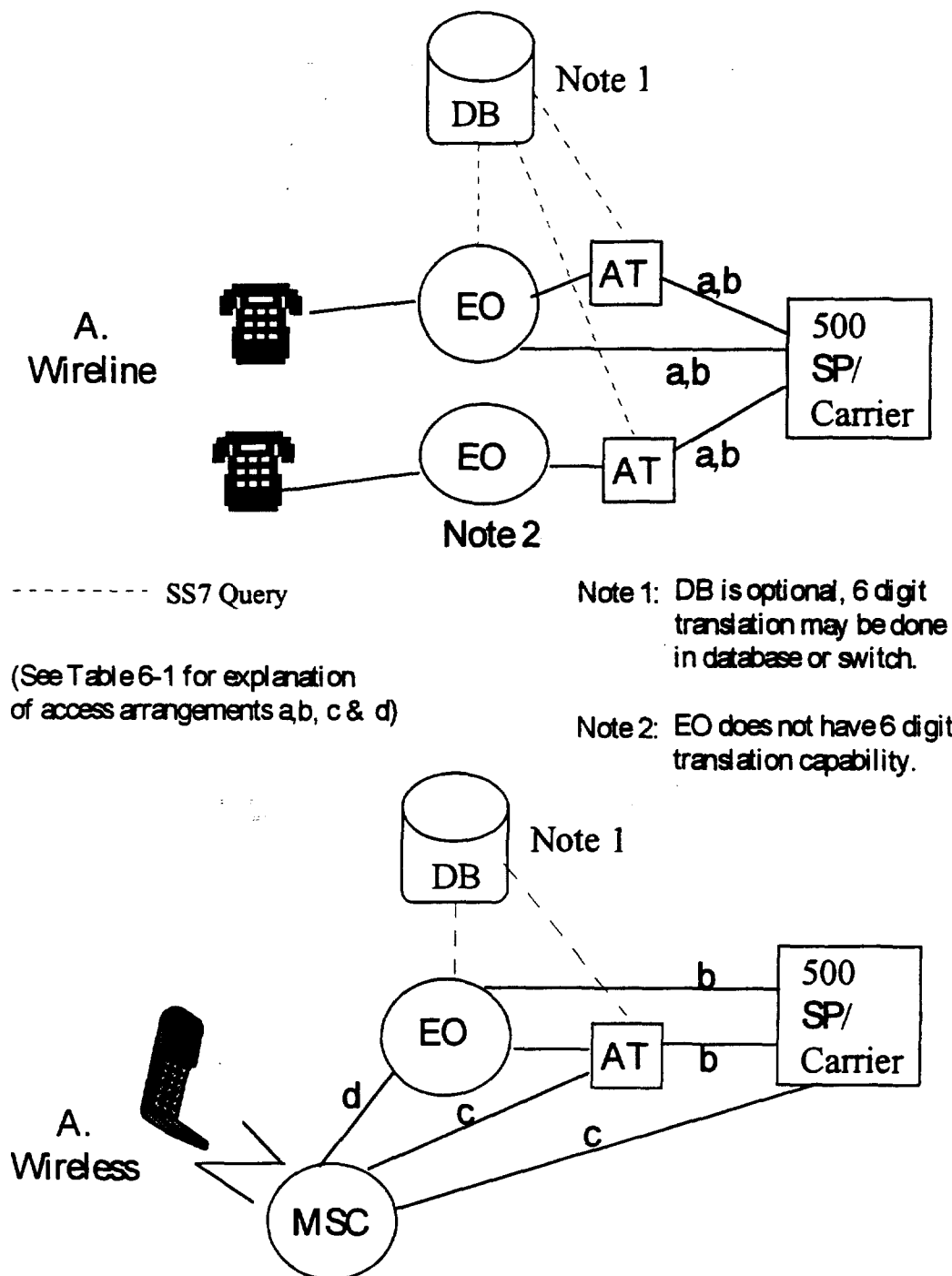


Figure 6-1
500 NXX Access Architecture

Table 6-1

Fig. 6-1 Ref.	Dialing Type	Signaling Type	Signaling Information Parameter - MF	Signaling Information Parameter - SS7
a	1+500	MF or SS7	<ul style="list-style-type: none"> • Dialed Number (e.g., 500-234-1234) • ANI (e.g., 212-987-6543) • ANI II (e.g., 00) 	<ul style="list-style-type: none"> • Called Party Number (e.g., 500-234-1234) • Charge Number (e.g., 212-987-6543) • Originating Line Information (e.g., 00)
b	1+500 (from restricted line) or 0+500	MF, SS7 or MOSS	<ul style="list-style-type: none"> • Dialed Number (e.g., 500-234-1234) • ANI (e.g., 212-987-6543) • ANI II (e.g., 07) (Note 1) 	<ul style="list-style-type: none"> • Called Party Number (e.g., 500-234-1234) • Charge Number (e.g., 212-987-6543) • Originating Line Information (e.g., 07) (Note 1)
c Note 2	0+500 Note 4	MF or SS7	<ul style="list-style-type: none"> • Dialed Number (e.g., 500-234-1234) • ANI (e.g., 212-987-6543) • ANI II (e.g., 62) 	<ul style="list-style-type: none"> • Called Party Number (e.g., 500-234-1234) • Charge Number (e.g., 212-987-6543) • Originating Line Information (e.g., 62)
d Note 3	0+500 Note 4	MF	<ul style="list-style-type: none"> • Dialed Number (e.g., 500-234-1234) 	NA

Notes:

1. If the call is from a wireless network via a Type 1 Interconnection ANI II will be 61, the ANI (Charge Number) signaling information parameter is the billing trunk number of the wireless system and not the ANI (Charge Number) of the wireless caller.
2. 10-digit ANI (Charge Number) of the wireless caller is provided only with Type 2A Interconnection which supports exchange access signaling (see TR-NTL-000145, "Compatibility Information for Interconnection of a Wireless Service Provider and Local Exchange Carrier Network", Issue 2, 12/93).
3. Type 1 Interconnection only. Note 1 applies.
4. 1+ 500 dialing is currently not supported.

7.0 Potential Technical Interconnection Arrangements

This section contains potential technical interconnection arrangements for non-geographic services and is consistent with routing concepts described in T1 Technical Reports and ITU-T Recommendations.

This section provides suggested alternatives that may be used to provide non-geographic services in a pre-portability environment. The routing scenarios depicted in Figures 7.3.1 through 7.3.11 illustrate functional end-to-end routing configurations. The actual service provider has not been identified in these diagrams and may, or may not, be one of the network providers. These scenarios are not the only arrangements that might be used. They are only examples provided in order to define the network functionalities that may be required to route non-geographic calls in a pre-portability environment.

The routing diagrams and tables included in this section are functional (i.e., what occurs at each step) and are not intended to depict the office architecture or actual network interconnections that may be provided. In addition, the functional arrangements are independent of whether number portability exists. Routine call processing functions are only identified when clarification of routing call flow is required.

This section also contains assumptions about where call detail recording might be done. However, there has been no attempt to identify every location where call detail recording could be done. Neither has any attempt been made to suggest how billing would be provided to end users. These are service provider issues that must be resolved with network providers when service is established.

In addition, deploying these arrangements, or any other non-geographic arrangements, may require tariff approvals as well as business agreements between network providers and service providers. These agreements are outside the scope of this document.

7.1 Non-geographic Routing Model

A generic routing model for non-geographic access services using NANP resources is shown in Figure 7 below. In this application, the call to the user of a non-geographic number is routed to the Designated Query Provider (DQP). It is important to note that the DQP function may be located in the originating (ON), intermediate (IMN) or the terminating network (TN). The DQP interrogates the service provider database to determine the routing address. The call is then progressed from the DQP and terminates at the routing address (called party). The actual routing may include multiple internetwork connections.